



HAPS - RT

Hazardous Air Pollutants (HAPS) Reference Table for Air Quality Permits

This document is used to help facilitate the submission of air quality permit application forms for sources subject to Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63).

The Hazardous Air Pollutants (HAPs) list is found in §112(b) of the Federal Clean Air Act and revisions to this list are found in 40 CFR Part 63, Subpart C.

CAS No.	Pollutant	CAS No.	Pollutant
75070	Acetaldehyde	79118	Chloroacetic acid
60355	Acetamide	532274	2-Chloroacetophenone
75058	Acetonitrile	108907	Chlorobenzene
98862	Acetophenone	510156	Chlorobenzilate
53963	2-Acetylaminofluorene	67663	Chloroform
107028	Acrolein	107302	Chloromethyl methyl ether
79061	Acrylamide	126998	Chloroprene
79107	Acrylic acid	1319773	Cresols/Cresylic acid (isomers and mixture)
107131	Acrylonitrile	95487	o-Cresol
107051	Allyl chloride	108394	m-Cresol
92671	4-Aminobiphenyl	106445	p-Cresol
62533	Aniline	98828	Cumene
90040	o-Anisidine	94757	2,4-D (2,4-Dichlorophenoxyacetic Acid) (including salts and esters)
1332214	Asbestos	3547044	DDE (1,1-dichloro-2,2-bis(p-chlorophenyl) ethylene)
71432	Benzene (including benzene from gasoline)	334883	Diazomethane
92875	Benzidine	132649	Dibenzofuran
98077	Benzotrichloride	96128	1,2-Dibromo-3-chloropropane
100447	Benzyl chloride	84742	Dibutylphthalate
92524	Biphenyl	106467	1,4-Dichlorobenzene (p)
117817	Bis (2-ethylhexyl) phthalate (DEHP)	91941	3,3-Dichlorobenzidine
542881	Bis (chloromethyl) ether	111444	Dichloroethyl ether (Bis[2-chloroethyl]ether)
75252	Bromoform	542756	1,3-Dichloropropene
106990	1,3-Butadiene	62737	Dichlorvos
156627	Calcium cyanamide	111422	Diethanolamine
133062	Captan	121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
63252	Carbaryl	64675	Diethyl sulfate
75150	Carbon disulfide	119904	3,3-Dimethoxybenzidine
56235	Carbon tetrachloride	60117	Dimethyl aminoazobenzene
463581	Carbonyl sulfide	119937	3,3'-Dimethyl benzidine
120809	Catechol	79447	Dimethyl carbamoyl chloride
133904	Chloramben	68122	Dimethyl formamide
57749	Chlordane	57147	1,1-Dimethyl hydrazine
7782505	Chlorine	131113	Dimethyl phthalate



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77781	Dimethyl sulfate	74839	Methyl bromide (Bromomethane)
534521	4,6-Dinitro-o-cresol (including salts)	74873	Methyl chloride (Chloromethane)
51285	2,4-Dinitrophenol	71556	Methyl chloroform (1,1,1-Trichloroethane)
121142	2,4-Dinitrotoluene	60344	Methyl hydrazine
123911	1,4-Dioxane (1,4-Diethyleneoxide)	74884	Methyl iodide (Iodomethane)
122667	1,2-Diphenylhydrazine	108101	Methyl isobutyl ketone (Hexone)
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	624839	Methyl isocyanate
106887	1,2-Epoxybutane	80626	Methyl methacrylate
140885	Ethyl acrylate	1634044	Methyl tert butyl ether
100414	Ethyl benzene	101144	4,4-Methylene bis (2-chloroaniline)
51796	Ethyl carbamate (Urethane)	75092	Methylene chloride (Dichloromethane)
75003	Ethyl chloride (Chloroethane)	101688	Methylene diphenyl diisocyanate (MDI)
106934	Ethylene dibromide (Dibromoethane)	101779	4,4'-Methylenedianiline
107062	Ethylene dichloride (1,2-Dichloroethane)	91203	Naphthalene
107211	Ethylene glycol	98953	Nitrobenzene
151564	Ethylene imine (Aziridine)	92933	4-Nitrobiphenyl
75218	Ethylene oxide	100027	4-Nitrophenol
96457	Ethylene thiourea	79469	2-Nitropropane
75343	Ethylidene dichloride (1,1-Dichloroethane)	684935	N-Nitroso-N-methylurea
50000	Formaldehyde	62759	N-Nitrosodimethylamine
76448	Heptachlor	59892	N-Nitrosomorpholine
118741	Hexachlorobenzene	56382	Parathion
87683	Hexachlorobutadiene	82688	Pentachloronitrobenzene (Quintobenzene)
77474	Hexachlorocyclopentadiene	87865	Pentachlorophenol
67721	Hexachloroethane	108952	Phenol
822060	Hexamethylene-1,6-diisocyanate	106503	p-Phenylenediamine
680319	Hexamethylphosphoramide	75445	Phosgene
110543	Hexane	7803512	Phosphine
302012	Hydrazine	7723140	Phosphorus
7647010	Hydrochloric acid	85449	Phthalic anhydride
7664393	Hydrogen fluoride (Hydrofluoric acid)	1336363	Polychlorinated biphenyls (Aroclors)
123319	Hydroquinone	1120714	1,3-Propane sultone
78591	Isophorone	57578	beta-Propiolactone
58899	Lindane (all isomers)	123386	Propionaldehyde
108316	Maleic anhydride	114261	Propoxur (Baygon)
67561	Methanol	78875	Propylene dichloride (1,2-Dichloropropane)
72435	Methoxychlor	75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)	75014	Vinyl chloride



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CAS No.	Pollutant	CAS No.	Pollutant
91225	Quinoline	75354	Vinylidene chloride (1,1-Dichloroethylene)
106514	Quinone	1330207	Xylenes (isomers and mixture)
100425	Styrene	95476	o-Xylenes
96093	Styrene oxide	108383	m-Xylenes
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	106423	p-Xylenes
79345	1,1,2,2-Tetrachloroethane	Antimony Compounds	Antimony Compounds
127184	Tetrachloroethylene (Perchloroethylene)	Arsenic Compounds	Arsenic Compounds (inorganic including arsine)
7550450	Titanium tetrachloride	Beryllium Compounds	Beryllium Compounds
108883	Toluene	Cadmium Compounds	Cadmium Compounds
95807	2,4-Toluene diamine	Chromium Compounds	Chromium Compounds
584849	2,4-Toluene diisocyanate	Cobalt Compounds	Cobalt Compounds
95534	o-Toluidine	Coke Oven Emissions	Coke Oven Emissions
8001352	Toxaphene (chlorinated camphene)	Cyanide Compounds ¹	Cyanide Compounds ¹
120821	1,2,4-Trichlorobenzene	Glycol ethers ²	Glycol ethers ²
79005	1,1,2-Trichloroethane	Lead Compounds	Lead Compounds
79016	Trichloroethylene	Manganese Compounds	Manganese Compounds
95954	2,4,5-Trichlorophenol	Mercury Compounds	Mercury Compounds
88062	2,4,6-Trichlorophenol	Fine mineral fibers ³	Fine mineral fibers ³
121448	Triethylamine	Nickel Compounds	Nickel Compounds
1582098	Trifluralin	Polycyclic Organic Matter ⁴	Polycyclic Organic Matter ⁴
540841	2,2,4-Trimethylpentane	Radionuclides (including radon) ⁵	Radionuclides (including radon) ⁵
108054	Vinyl acetate	Selenium Compounds	Selenium Compounds
593602	Vinyl bromide		

For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

- 1 X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)₂
- 2 Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH₂)_n-OR'.
Where:
n = 1, 2, or 3;
R = alkyl C7 or less; or
R = phenyl or alkyl substituted phenyl;
R' = H or alkyl C7 or less; or
OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.
- 3 Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- 4 Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100 ° C.
- 5 A type of atom which spontaneously undergoes radioactive decay.

- The substance caprolactam (CAS number 105602) is deleted from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1). [61 FR 30823, June 18, 1996]
- The substance methyl ethyl ketone (MEK, 2-Butanone) (CAS Number 78933) is deleted from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1). [70 FR 75059, December 19, 2005]
- The substance ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol) (CAS Number 111762) is deleted from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1). [69 FR 69325, November 29, 2004]
- A clerical error led to the inadvertent addition of hydrogen sulfide to the Section 112(b) list of Hazardous Air Pollutants. However, a Joint Resolution to remove hydrogen sulfide from the Section 112(b)(1) list was passed by the Senate on August 1, 1991 (Congressional Record page S11799), and the House of Representatives on November 25, 1991 (Congressional Record pages H11217-H11219). The Joint Resolution was approved by the President on December 4, 1991. Hydrogen Sulfide is included in Section 112(r) and is subject to the accidental release provisions. A study (see below) was required under Section 112(n)(5).

Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas, EPA-453/R-93-045, NTIS (publication number is PB94-131224, \$36.50 hard copy, \$17.50 microfiche). National Technical Information Services (NTIS) 5285 Port Royal Road Springfield, VA 22161 703-487-4650 800-426-4791 703-487-4807 8:30-5:30 EST M-F